

## Bi-directional Display

## ABSTRACT OF THE DISCLOSURE

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**[0074]** A bidirectional text display method embodied in a functional programming language which first assigns bidirectional attributes to a logical character stream. Next, through explicit processing, level numbers are assigned, honoring any directional overrides present in the logical character stream. Subsequent weak and neutral type processing potentially causes attribute types to change based upon surrounding attribute types. Then, implicit processing assigns final level numbers to the stream which control reordering. Finally, reordering processing produces a sequence of characters in display order. By separating the facets of layout dealing with reordering from those that are concerned with rendering, such as line breaking, glyph selection, and shaping, the Haskell-based method is more discernible and comprehensible, thereby allowing it to be more useful as a model upon which others may base bidirectional implementations.